

REMARKS

At the time of the Office Action dated December 18, 2006, claims 1-22 were pending in this application. Of those claims, claims 8-10, 12-14 and 18-22 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b).

In this Amendment, claims 1 and 15 have been amended and new claims 23-28 added. Care has been exercised to avoid the introduction of new matter. Specifically, support for the amendment of claims 1 and 15, and new claims 23-28 can be found in, for example, on page 16, lines 12-21; and page 22, lines 6-19 of the specification.

Now, claims 1-5, 7, 11, 15, 16, and 23-28 are active in this application, of which claims 1, 15, 25, and 26 are independent.

Information Disclosure Statement

The Information Disclosure Statements were filed on February 28, 2007 and March 15, 2007. Applicants respectfully request the Examiner to acknowledge receipt of the IDS when reviewed and provide copies of the PTO-1449 forms appropriately initialed indicating consideration of the cited prior art.

Claims 1-5, 7, 11, 15, and 16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kaneshiro et al. in view of Bergmann et al.

In the statement of the rejection, the Examiner admitted that Kaneshiro et al. does not explicitly disclose the projection having 1 nm to 20 nm in average diameter. However, the Examiner asserted that Bergmann et al. teaches the missing feature of Kaneshiro et al. and

concluded that it would have been obvious to modify the device of Kaneshiro et al. based on the teachings of Bergmann et al. to arrive at the claimed invention.

In response, Applicants submit that the applied combination of Kaneshiro et al. and Bergmann et al. does not teach a semiconductor module including all the limitations recited in independent claim 1, as amended. Specifically, the applied combination does not teach, among other things, “said insulting base material includes at least one of photopolymerizable thermosetting resin containing a polyfunctional oxetane compound or an epoxy compound, epoxy resin, BT resin, and liquid crystal polymer,” recited in claim 1.

According to the Examiner, Kaneshiro et al. teaches that the surface of the solder resist film is roughened, and Bergmann et al. teaches nanoparticles having 10 to 50 nanometers. However, the applied combination is silent on an insulting base material including at least one of photopolymerizable thermosetting resin containing a polyfunctional oxetane compound or an epoxy compound, epoxy resin, BT resin, and liquid crystal polymer.

When the photopolymerizable thermosetting resin containing a polyfunctional oxetane compound or an epoxy compound is included in the insulating base material, a plurality of creator-shaped recesses are formed on the surface of the insulating base material in addition to the minute projections, upgrading the adhesion between the insulating base material and the insulator (see page 22, lines 4-9, page 24, lines 1-6, and page 25, lines 20-24 of the specification). Further, employing an epoxy resin, a BT resin, or a liquid crystal polymer facilitates production of a semiconductor module having excellent high-frequency characteristics and high reliability (page 16, line 22 to page 17, line 2 of the specification). It is submitted that, the module of claim 1 has a significant advantage over the module of the reference.

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Based on the foregoing, Applicants submit that the applied combination of Kaneshiro et al. and Bergmann et al. does not teach a semiconductor module including all the limitations recited in independent claim 1, as amended. The above discussion is applicable to independent claim 15 reciting “said base material includes at least one of photopolymerizable thermosetting resin containing a polyfunctional oxetane compound or an epoxy compound, epoxy resin, BT resin, and liquid crystal polymer.” Dependent claims 2-5, 7, 11, and 16 are also patentably distinguishable over Kaneshiro et al. and Bergmann et al. at least because these claims include all the limitations recited in independent claims 1 and 15, respectfully. Applicants, therefore, respectfully solicit withdrawal of the rejection of the claims under 35 U.S.C. §103(a) and favorable consideration thereof.

New Claims 23-28

Applicants submit that new claims 23-28 are patentable over Kaneshiro et al. and Bergmann et al. Specifically, Applicants note that independent claims 25 and 26 recites that base material includes at least one of photopolymerizable thermosetting resin containing a polyfunctional oxetane compound or an epoxy compound, epoxy resin, BT resin, and liquid crystal polymer. This limitation is not disclose or taught by Kaneshiro et al. and Bergmann et al. Favorable consideration is, therefore, respectfully solicited.

Conclusion

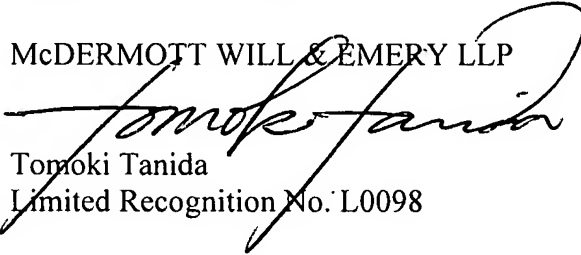
It should, therefore, be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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